

WHAT IS CLAIMED IS:

305. Apparatus for authenticating a specific individual by comparing a present biometric signature, which comprises a ratio of unique, internal electric and/or magnetic and/or acoustic properties of a plurality of different body parts of said specific individual, with at least one known biometric signature, said apparatus including a card having a plurality of electrodes for engagement with said body parts to generate said present biometric signature, a reader for reading the present biometric signature generated by the card, and a comparator for comparing the present and known biometric signatures to authenticate the individual if the biometric signatures match.

306. The apparatus of claim 305, including a database of known biometric signatures representing a class of individuals, wherein the comparator has means for comparing the present biometric signature with the known biometric signatures in said database to authenticate said specific individual as a member of said class of individuals.

307. The apparatus of claim 306, wherein the comparator includes means for authorizing an action when said specific individual is authenticated.

308. The apparatus of claim 305, wherein the card includes first and second sides, and plurality of sensors comprising finger electrodes on the first side and a thumb electrode on the second side.

309. The apparatus of Claim 308, wherein the plurality of sensors include a contact electrode which contacts the reader to transfer the present biometric signature to the reader.

310. The apparatus of Claim 309, wherein the reader includes a groove for card insertion, and a reader contact plate in the groove that contacts the contact electrode.

311. The apparatus of Claim 310, wherein the card includes a card memory containing the known biometric signature and the reader includes a memory reading mechanism that reads the known biometric signature from the card memory.

312. The apparatus of Claim 311, wherein the memory reading mechanism is located in the groove, and the card memory is located on one of the sides of the card for reading by the memory reading mechanism.

313. The apparatus of Claim 312, wherein the reader includes a generator which generates an electrical signal that is transferred to the contact plate, the contact electrode and the finger electrodes and/or the thumb electrode for generating the present biometric signature.

314. The apparatus of Claim 313, wherein the comparator includes a register which stores the present biometric signature, and a microprocessor for comparing the signatures.

315. The apparatus of Claim 313, wherein the microprocessor is remote from the reader and the reader includes a modem, which communicates the present biometric signature to the microprocessor.

316. The apparatus of Claim 313, wherein the card memory is a bar code, magnetic strip, microchip, or hologram.

317. The apparatus of Claim 316 wherein the comparator includes a PIN entering mechanism through which a PIN is entered into the reader, as a prerequisite to reading the biometric signature of the card memory.

318. Apparatus for authorizing an action by a specific individual, comprising biometric signature generating means for generating a present biometric signature, that comprises a ratio of unique, internal electric and/or magnetic and/or acoustic properties of a plurality of different body parts of said specific individual,

a database containing known biometric signatures representing a class of individuals, and

a comparator for comparing the present biometric signature and the known biometric signatures in said database to determine if said individual is a member of said class of individuals, and for authorizing an action by said specific individual when identified as a member of said class.

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319. The apparatus of claim 318, wherein each of a plurality of the known biometric signatures in said database is identified with an associated PIN, said apparatus includes means for inputting a PIN in association with a present biometric signature, and said comparator compares said present biometric signature and associated PIN with said plurality of said known biometric signatures and PINs to identify said specific individual as a specific member of said class.

320. The apparatus of claim 318, wherein the comparator includes means for authorizing an action when said specific individual is authenticated.

321. The apparatus of Claim 318, wherein the signature generating means include a touch mechanism which the individual touches to obtain the present biometric signature.

322. The apparatus of Claim 318, wherein the signature generating mechanism includes a touchless mechanism having a zone in which the body parts of the individual are placed to obtain the present biometric signature.

323. The apparatus of Claim 322, wherein the touchless mechanism includes electric and/or magnetic field producing means for producing electric and/or magnetic fields in the zone for the sensor mechanism to obtain the present biometric signature.

324. The apparatus of Claim 322, wherein the touchless mechanism includes acoustic field producing means for producing an acoustic field in the zone to obtain the present biometric signature.

325. The apparatus of Claim 322, wherein the touchless mechanism includes a touchless electric field sensor for measuring induced current in the individual to obtain the biometric signature, and a card having a memory that stores a known biometric signature of the individual, and wherein the sensor mechanism has a reader for obtaining the known biometric signature from the card.

326. The apparatus of Claim 318, including a touch electrode wristband having the electrodes that includes means to communicate the biometric signature to the sensor mechanism.

Sub 13 327. The apparatus of any of claims 307 or 308-326, wherein the action is accessing an area.

308 and 326

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321-326 LAB.

308 thru 326

328. The apparatus of any of claims 307 or 308-326, wherein the action is accessing a database.

329. The apparatus of any of claims 307 or 308-326, wherein the action is authorizing a financial transaction.

330. The apparatus of any of claims 307 or 308-326, wherein the action is accessing a locked device.

331. The apparatus of any of claims 307 or 308-326, wherein the action is enabling access to transportation.

332. The apparatus of any of claims 307 or 308-326, wherein the action is accessing telecommunications equipment.

333. An apparatus as described in any of claims 307 or 308-326, wherein the action is boarding a transportation vehicle.

334. The apparatus of any of claims 307 or 308-326, including an electronic passport having known biometric signature of the individual, and a passport reader which reads the known biometric signature to allow the individual through customs when authenticated.

335. The apparatus of any of claims 307 or 308-326, wherein ^{LAB} the action is administering government benefits or funds, and including a memory having an account of the individual, which includes funds/benefits values, and the mechanism includes means for adjusting the funds/benefits values in the account when the of the individual is authenticated.

336. The apparatus of any of claims 307 or 308-326, wherein ^{LAB} the action is accessing a room having an access door having a handle and a lock including means to unlock the door when individual is authenticated.

337. The apparatus of Claim 336, wherein the handle includes a touch mechanism for obtaining the biometric signature of the individual.

338. The apparatus of Claim 336, including a touchless mechanism having a zone in which the door handle is disposed and in which the body parts of the individual are placed to obtain the biometric signature.

339. The apparatus of Claim 336, including a card reader and a contact card with electrodes grasped by the individual for engaging the card reader to provide the biometric signature of the individual.

340. The apparatus of any of claims 307 or 308-326, wherein the action is accessing electronic records stored in a memory, and including a forehead-mounted headset fitted with virtual screen glasses having a see-through mode, which allows the individual to jointly view a patient and the electronic records through the glasses, said headset having sensors for obtaining the biometric signature of the individual, a

~~transmitter for transmitting the biometric signature to the comparator, and a receiver which receives the electronic records when the individual is authenticated.~~

Sub E 341. The apparatus of claim 329, wherein the action is accessing an ATM machine.

Sub E 342. The apparatus of any of claims 307 or 308-326, wherein the action is monitoring the location of the individual.

B 343. The apparatus of claim 342, including a receiver, an alarm, and a touch mechanism for obtaining the present biometric signature of the individual, the touch mechanism comprising an ankle or wrist band including the touch mechanism and a transmitter communicating with the comparator, and means for actuating the alarm if the comparator does not receive the present biometric signature from the transmitter at a predetermined time.

Sub E 344. The apparatus of any of claims 307 or 308-326, wherein the action is tracking the individual, and the signature generating means includes a first transmitter/receiver and a GPS carried by the individual, and the comparator has an associated second transmitter/receiver in communication with the first transmitter/receiver for receiving information including the biometric signature of the individual from the first transmitter/receiver to identify and ascertain the position of the individual.

345. A method of authorizing an action by a specific individual, comprising the steps of

generating a present biometric signature that comprises a ratio of unique, internal electric and/or magnetic and/or acoustic properties of a plurality of different body parts of said specific individual,

providing a database containing known biometric signatures representing a class of individuals,

comparing the present biometric signature and the known biometric signatures in said database to determine if said individual is a member of said class of individuals, and

authorizing the action by said specific individual when identified as a member of said class.

346. The method of claim 345, including the steps of providing a mechanism touchable by said body parts, and touching said mechanism to provide the present biometric signature.

347. The method of claim 345, including the steps of providing a touchless mechanism having a sensor area, and inserting said body parts into said sensor area to provide the present biometric signature.

348. The method of any of claims 345-347, wherein the authorized action is access to a restricted area by the individual.

349. The method of any of claims 345-347, wherein the authorized action is access to a locked device.

350. The method of any of claims 345-347, wherein the authorized action is a financial transaction.

- ~~351.~~ The method of any of claims 345-347, wherein the authorized action is access to a database.
- ~~352.~~ The method of any of claims 345-347, wherein the authorized action is access to a transportation vehicle.
- ~~352.~~³ The method of any of claims 345-347, wherein the authorized action is access to a tollway.
- ~~353.~~ The method of any of claims 345-347, wherein the action is recording a traffic offense on the individual's driver license, including the step of providing the individual with a driver license containing a memory having the stored biometric signature, comparing a present biometric signature with the stored signature, and recording the offense in said memory when the individual is identified.
- ~~354.~~ The method of any of claims 345-347, wherein the authorized action is administering a government benefit.
- ~~355.~~⁶ The method of any of claims 345-347, wherein the authorized action is accessing medical records, and wherein the body parts are located in the head of the individual, including the steps of sensing the present biometric signature with a head-mounted device, and enabling access to said medical records when the individual is identified.
- ~~356.~~⁷ The method of any of claims 345-347, wherein the authorized action is monitoring location of the individual, including the steps of providing the individual with a sensing device having a transmitter and a GPS, and transmitting the present biometric signature and position to a remote location for comparison with a stored signature to determine the location of the individual.

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357. Apparatus for authorizing an action by a specific individual, comprising
means for generating a present biometric signature that comprises a ratio of
unique, internal electric and/or magnetic and/or acoustic properties of a plurality of
different body parts of said specific individual,
a database containing known biometric signatures representing a class of
individuals,
means for comparing the present biometric signature and the known biometric
signatures in said database to determine if said individual is a member of said class of
individuals, and
means for authorizing the action by said specific individual when identified as a
member of said class.
